Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-49 (Cancelled)

50. (New) A computer-readable recording medium with video index information generated based on video information recorded therein, the video index information having a tree structure comprising:

first segment information configured to manage a predetermined segment of the video information;

a plurality of second segment information, each configured to manage at least a portion of the predetermined segment of the video information;

first package information configured to manage the first segment information; and

second package information configured to collectively manage the plurality of second segment information as a group, wherein

the first segment information is further configured to manage the second package information.

51. (New) The computer-readable recording medium of Claim 50, wherein one of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

retrieval information configured to enable retrieval of frame and/or audio data.

52. (New) The computer-readable recording medium of Claim 50, wherein each of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

retrieval information configured to enable retrieval of frame and/or audio data.

53. (New) A video information management method, comprising:

analyzing a plurality of frames containing video information;

generating, apart from the video information, video index information; and

retrieving video information in accordance with the generated video index information, wherein

the video index information has a tree structure comprising:

first segment information configured to manage a predetermined segment of the video information;

a plurality of second segment information, each configured to manage at least a portion of the predetermined segment of the video information;

first package information configured to manage the first segment information; and

second package information configured to collectively manage the plurality of second segment information as a group, wherein

the first segment information is further configured to manage the second package information.

54. (New) The method of Claim 53, wherein one of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

visible and/or audible selection information.

55. (New) The method of Claim 53, wherein one of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

frame information having

a node ID corresponding to a location in said tree structure,

a range of successive frames managed according to the frame information, and

a pointer indicating a position in the video information.

56. (New) The method of Claim 53, wherein one of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

sound information having

a node ID corresponding to a location in said tree structure,

a range of successive frames managed according to the frame information, and

a pointer indicating a position in the sound information.

57. (New) The method of Claim 53, wherein one of the first segment information and the plurality of second segment information comprises:

a node ID in said tree structure,

identifying information for identifying frame-information, sound information and package information to be managed, and

a pointer to upper package information.

58. (New) The method of Claim 53, wherein one of the first package information and the second package information comprises:

a node ID in said tree structure,

identifying information for identifying frame-information, sound information and package information to be managed, and

a pointer to upper package information.

59. (New) The method of Claim 53, wherein the video index information comprises:

an attribute object (106) allocated in said tree structure, wherein

the first segment information, the plurality of second segment information, the first package information, and the second package information each comprise:

a pointer to the attribute object (106), and

additional information can be added to one of the first segment information, the plurality of second segment information, the first package information, and the second package information using the attribute object (106) and the pointer to the attribute object (106).

60. (New) The method of Claim 53, further comprising:

storing the video index information separately from the video information.

61. (New) A video information management method, comprising:

analyzing a plurality of frames containing video information;

generating, apart from the video information, video index information; and

retrieving video information in accordance with the generated video index information, wherein the video index information comprises:

a tree structure including:

first segment information configured to manage a predetermined segment of the video information;

a plurality of second segment information, each configured to manage at least a portion of the predetermined segment of the video information;

first package information configured to manage the first segment information; and

second package information configured to collectively manage the plurality of second segment information as a group, wherein

the first segment information is further configured to manage the second package information, and

the first and plurality of second segment information is configured to manage a range of successive frames;

a first link list configured to indicate an order for the first and plurality of second segment information;

a plurality of second link lists configured to indicate an order of frame and/or audio data; and

a plurality of view information configured to enable retrieval of the frame and/or audio data.

62. (New) The method of Claim 61, further comprising:

specifying particular view information from the plurality of view information; and

making a portion of video information corresponding to the particular view visible and/or audible by using a link list corresponding to the particular view information.

63. (New) The method of Claim 61, further comprising:

storing the video index information separately from the video information.

64. (New) A computer-readable recording medium with audio index information generated based on audio information recorded therein, the audio index information having a tree structure comprising:

first segment information configured to manage a predetermined segment of the audio information;

a plurality of second segment information, each configured to manage at least a portion of the predetermined segment of the audio information;

first package information configured to manage the first segment information; and

second package information configured to collectively manage the plurality of second segment information as a group, wherein

the first segment information is further configured to manage the second package information.

65. (New) The computer-readable recording medium of Claim 64, wherein one of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

retrieval information configured to enable retrieval of sound data.

66. (New) The computer-readable recording medium of Claim 64, wherein each of the first segment information, the plurality of second segment information, the first package information, and the second package information comprises:

retrieval information configured to enable retrieval of sound data.

67. (New) An audio information management method, comprising:

analyzing a plurality of frames containing audio information;

generating, apart from the audio information, audio index information; and

retrieving video information in accordance with the generated audio index information, wherein

the audio index information has a tree structure comprising:

first segment information configured to manage a predetermined segment of the audio information;

a plurality of second segment information, each configured to manage at least a portion of the predetermined segment of the audio information;

first package information configured to manage the first segment information; and

second package information configured to collectively manage the plurality of second segment information as a group, wherein

the first segment information is further configured to manage the second package information.

68. (New) The method of Claim 67, further comprising:

storing the audio index information separately from the audio information.

69. (New) A video information retrieval apparatus, comprising:

a video retrieval tool;

a video information library connected to the video retrieval tool; and

a video index information database connected to the video retrieval tool and including a computer-readable recording medium with video index information having a tree structure comprising:

first segment information configured to manage a predetermined segment of the video information;

a plurality of second segment information, each configured to manage at least a portion of the predetermined segment of the video information;

first package information configured to manage the first segment information; and

second package information configured to collectively manage the plurality of second segment information as a group, wherein

the first segment information is further configured to manage the second package information.

70. (New) A computer-readable recording medium with video index information generated based on video information recorded therein, the video index information having a tree structure comprising:

a first segment information configured to manage a first segment of the video information;

a plurality of second segment information configured to manage a plurality of second segments generated as a result of dividing the first segment according to a first algorithm;

a first package information configured to manage the plurality of second segment information;

a plurality of third segment information configured to manage a plurality of third segments generated as a result of dividing the first segment according to a second algorithm; and

a second package information configured to manage the plurality of third segment information, wherein

the first segment information is further configured to manage the first and the second package information collectively as a group.

71. (New) The computer-readable recording medium of Claim 70, wherein one of the first segment information, the plurality of second segment information, the first package information, the plurality of third segment information, and the second package information comprises:

retrieval information configured to enable retrieval of frame and/or audio data.

72. (New) The computer-readable recording medium of Claim 70, wherein each of the first segment information, the plurality of second segment information, the first package information, the plurality of third segment information, and the second package information comprises:

retrieval information configured to enable retrieval of frame and/or audio data.

73. (New) A video information management method, comprising:

analyzing a plurality of frames containing video information;

generating, apart from the video information, video index information; and

retrieving video information in accordance with the generated video index information, wherein

the video index information has a tree structure comprising:

a first segment information configured to manage a first segment of the video information;

a plurality of second segment information configured to manage a plurality of second segments generated as a result of dividing the first segment according to a first algorithm;

a first package information configured to manage the plurality of second segment information;

a plurality of third segment information configured to manage a plurality of third segments generated as a result of dividing the first segment according to a second algorithm; and

a second package information configured to manage the plurality of third segment information, wherein

the first segment information is further configured to manage the first and the second package information collectively as a group.

74. (New) The method of Claim 73, wherein one of the first segment information, the plurality of second segment information, the plurality of third segment information, the first package information, and the second package information comprises:

visible and/or audible selection information.

75. (New) The method of Claim 73, wherein one of the first segment information, the plurality of second segment information, the plurality of third segment information, the first package information, and the second package information comprises:

frame information having

a node ID corresponding to a location in said tree structure,

a range of successive frames managed according to the frame information, and

a pointer indicating a position in the video information.

76. (New) The method of Claim 73, wherein one of the first segment information, the plurality of second segment information, the plurality of third segment information, the first package information, and the second package information comprises:

sound information having

a node ID corresponding to a location in said tree structure,

a range of successive frames managed according to the frame information, and

a pointer indicating a position in the sound information.

77. (New) The method of Claim 73, wherein one of the first segment information and the plurality of second segment information comprises:

a node ID in said tree structure,

identifying information for identifying frame-information, sound information and package information to be managed, and

a pointer to upper package information.

78. (New) The method of Claim 73, wherein one of the first package information and the second package information comprises:

a node ID in said tree structure,

identifying information for identifying frame-information, sound information and package information to be managed, and

a pointer to upper package information.

79. (New) The method of Claim 73, wherein the video index information comprises:

an attribute object (106) allocated in said tree structure, wherein

the first segment information, the plurality of second segment information, the first package information, and the second package information each comprise:

a pointer to the attribute object (106), and

additional information can be added to one of the first segment information, the plurality of second segment information, the plurality of third segment information, the first package information, and the second package information using the attribute object (106) and the pointer to the attribute object (106).

80. (New) The method of Claim 73, further comprising:

storing the video index information separately from the video information.

81. (New) A computer-readable recording medium with audio index information generated based on audio information recorded therein, the audio index information having a tree structure comprising:

a first segment information configured to manage a first segment of the audio information;

a plurality of second segment information configured to manage a plurality of second segments generated as a result of dividing the first segment according to a first algorithm;

a first package information configured to manage the plurality of second segment information;

a plurality of third segment information configured to manage a plurality of third segments generated as a result of dividing the first segment according to a second algorithm; and

a second package information configured to manage the plurality of third segment information, wherein

the first segment information is further configured to manage the first and the second package information collectively as a group.

82. (New) The computer-readable recording medium of Claim 81, wherein one of the first segment information, the plurality of second segment information, the plurality of third segment information, the first package information, and the second package information comprises:

retrieval information configured to enable retrieval of sound data.

83. (New) The computer-readable recording medium of Claim 81, wherein each of the first segment information, the plurality of second segment information, the plurality of third segment information, the first package information, and the second package information comprises:

retrieval information configured to enable retrieval of sound data.

84. (New) An audio information management method, comprising:

analyzing a plurality of frames containing audio information;

generating, apart from the audio information, audio index information; and

retrieving video information in accordance with the generated audio index information, wherein

the audio index information has a tree structure comprising:

a first segment information configured to manage a first segment of the audio information;

a plurality of second segment information configured to manage a plurality of second segments generated as a result of dividing the first segment according to a first algorithm;

a first package information configured to manage the plurality of second segment information;

a plurality of third segment information configured to manage a plurality of third segments generated as a result of dividing the first segment according to a second algorithm; and

a second package information configured to manage the plurality of third segment information, wherein

the first segment information is further configured to manage the first and the second package information collectively as a group.

85. (New) The method of Claim 84, further comprising:

storing the audio index information separately from the audio information.

86. (New) A video information retrieval apparatus, comprising:

a video retrieval tool;

a video information library connected to the video retrieval tool; and

a video index information database connected to the video retrieval tool and including a computer-readable recording medium with video index information having a tree structure comprising:

a first segment information configured to manage a first segment of the video information;

a plurality of second segment information configured to manage a plurality of second segments generated as a result of dividing the first segment according to a first algorithm;

a first package information configured to manage the plurality of second segment information;

a plurality of third segment information configured to manage a plurality of third segments generated as a result of dividing the first segment according to a second algorithm; and

a second package information configured to manage the plurality of third segment information, wherein

the first segment information is further configured to manage the first and the second package information collectively as a group.